Final Report:

Evaluability Assessment of CDC-funded Traumatic Brain Injury and Spinal Cord Injury Programs

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by

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EXECUTIVE SUMMARY

Disability Prevention at CDC

This report describes an evaluability assessment of traumatic brain injury and spinal cord injury (TBI/SCI) programs funded through the Disability Prevention Program, National Center for Environment Health, Centers for Disease Control and Prevention (DPP, NCEH, CDC). As the only federal program with a specific mandate to prevent disability, the DPP was created by CDC in 1988 to promote the health and quality of life of people with disabilities and to prevent conditions that cause disabilities. The program has concentrated on five disability areas: fetal alcohol syndrome; mild mental retardation; secondary conditions among children with cerebral palsy, spina bifida, or sickle cell disease, traumatic brain injuries (TBI) and spinal cord injuries (SCI); and secondary conditions among people with TBI/SCI.

From its inception, a major program thrust has been the provision of financial and technical support, through cooperative agreements and grants, to help states build capacity in disability prevention. Examples of

Through cooperative agreements, DPP has provided state support for disability prevention.

capacity building activities include establishing visible offices for disability prevention, designing useful surveillance systems, and conducting community-based interventions. The DPP initially funded nine such capacity-building cooperative agreements for a total of approximately \$2 million; by 1995, the program had expanded to 30 states and a budget of \$10.3 million.

As a new federal-state partnership in a newly emerging field of public health, the DPP gave states great latitude in selecting program goals and strategies that suited their unique needs and priorities. Not surprisingly, states chose different causes of disability on which to focus, pursued a variety of surveillance approaches, and designed a multiplicity of interventions. Many of their efforts addressed the prevention of TBI, SCI, and related secondary conditions — health issues later under the purview of CDC's National Center for Injury Prevention and Conrrol (NCIPC).

Purpose of the Study

After nearly a decade of experience with the program, NCIPC felt that much could be learned from examining the states' experiences and defining the core elements of a capacity-building effort. They were interested in answering the following questions:

- Is there a consensus on the goals of the programs and what constitutes a successful program?
- · What are the goals and critical program components?
- What indicator(s) could be used to determine that a program has been successfully implemented?
- What indicator(s) could be used to determine whether a program is moving toward and attaining the desired goals?

Answers to these questions could help define the critical components for establishing and maintaining an effective state-based program for preventing TBI/SCl and related disabilities. Furthermore, NCIPC hoped that the lessons learned would help them to design more effective capacity-building programs in the future, monitor and refine existing programs, and would serve as the basis for evaluating program impact. After much deliberation, NCIPC determined that use of a tool called an "evaluability assessment" would be most likely to generate this information, and thus commissioned this study to apply the tool.

What is an evaluability assessment?

In her 1972 book on evaluation research, Carol Weiss notes that "evaluarion is an elastic word that stretches to cover judgements of many kinds." But, she continues, "What all the uses have in common is the notion of judging merit. Someone is examining and weighing a phenomenon.. against some explicit or implicit yardstick." Weiss's description helps explain why evaluations of all kinds tend to be resisted by program staff, who fear that their programs will not measure up to a given yardstick, or that the yardstick being used is not appropriate. One way to prevent this problem is to reach consensus about yardsticks *before* a program is launched. Evaluability assessments — a precursor to full-blown evaluations — represent an effective tool for reaching this type of consensus before, during, or after a program has been implemented.

Evaluability assessments ask whether a program (or set of programs) is ready to be evaluated — that is, whether there is a common understanding of the program's purpose and goals, whether there are indicators or yardsticks against which progress can be gauged, and whether these indicators are readily available and perhaps of

An evaluability assessment asks whether a program is plausible.

whether these indicators are readily available and perhaps even comparable across programs. In essence, an evaluability assessment asks whether a program is plausible. The analytic tool for determining plausibility is a program logic model, which arrays the assumptions underlying a program, the activities that a program supports, and the program's objectives and goals. An additional step is to identify measurable indicators for each of these.

Study Methodology

A literature and document review was conducted to identify evaluability assessment guides, key national policy reports, and relevant evaluability assessments, particularly those that assessed federal public health programs implemented through state and/or local health departments.

Interviews were conducted with selected federal and state staff with background or interest in the DPP, and with external stakeholders, such as representatives of national advocacy groups. The main data

Structured interviews with federal and state stakeholders, guided by a literature review, yielded the study's primary information.

collection effort for this study included structured interviews with program staff in eight states

Results of the federal, state, and stakeholder interviews were used to prepare a logic model of state-level TBI/SCI programs, along with a set of measurable program components that matched the activities and objectives set forth in the logic model. Both documents were reviewed during a meeting with CDC and state program staff, amended based on their comments, and reviewed again.

Study Results

Disability prevention efforts at the state level have undergone changes in direction and emphasis since their inception a decade ago. These changes, far from jeopardizing the evaluability assessment effort, help demonstrate that this valuable tool *cm* be applied to a program that appears in a different form in each state, yet shares a common set of underlying assumptions and goals. In other words, despite a high variance in implementation from state to state, the core components of a successful capacity-building program for TBI/SCI disability prevention *can* be identified and measured.

A condensed version of the program logic model depicting these core components is provided in Appendix A, which shows the sequence of program assumptions, activities,

A logic model depicts the essential sequence of program assumptions, activities, objectives, and goals.

objectives, and goals. In addition, a more detailed logic model (showing specific activities) and a set of measurable indicators were also developed as products of this evaluability assessment (see Appendices B and C). All of these products emanate from the same assumptions, activities, objectives, and goals; they differ only in the level of detail and emphasis provided for different aspects of the model.

A key organizing principle for the documents is the clustering of program activities into four areas:

- **organization** administrative, managerial, and infrastructure tasks related to setting up a program and maintaining its operational capacity and visibility
- data surveillance and other data collection and dissemination activities
- **policy** activities that support changes in the legislative or policy arenas
- **intervention** state and local interventions that affect TBI/SCI incidence and contribute to the national research base about innovative approaches to primary prevention and prevention of secondary conditions associated with TBI/SCI.

It should be noted that the products of this evaluability assessment do not reflect any single state program; rather, they reflect an idealized consensus about what programs can and should aim for. No one state currently has all program components in place. Similarly, some components do not currently exist in any state. However, this does not mean that these products represent an impossible ideal — indeed, they are based on a pragmatic sense of what worked for various programs and what was learned through trial and error. The model is designed to be generic enough to absorb the inevitable variations in different programs, yet specific enough to provide guidance and a degree of consensus about the core elements and sequence of activities of a successful program.

Conclusions and Recommendations

What was learned from this evaluability assessment? First, the goals, activities, and indicators for a capacity-building program *can* be identified after-the-fact, even when the program has undergone

Core components of capacity-building can be defined and measured.

significant programmatic changes and exists in a different form in each state. Despite these variations, the tools of evaluability assessment — rigorously testing the program's plausibility by asking about underlying assumptions, goals, and activities — led to a surprising degree of consensus about the program's goals and the indicators that could be used to measure them. From this commonly understood portrait of a plausible and defensible program both CDC and **state** staff can now develop a common framework and terminology for identifying program gaps and exploring innovative solutions that can be disseminated to other programs.

This evaluability assessment has broader implications as well. Evaluation can be thought of as the literal reflection of planning — a mirror that shows observers, both inside and outside the program, whether their images of activities and goals are accurate. In this sense, evaluability assessments become a useful planning tool that can be used at any point in the program design and implementation process (even though their potential contributions are greatest early in the program life cycle). By forcing program staff at the federal and state levels to clarify and scrutinize their assumptions, evaluability assessments can help turn implicit yardsricks into explicit ones — a development that can benefit a wide variety of programs, regardless of their scope, origins, or public health goals.

I. BACKGROUND AND PURPOSE

A. CDC's Interest in Disabilities

Traumatic brain and spinal cord injuries cause some of the most devastating and costly disabilities, ranging from physical and neurological trauma to psychosocial effects. Each year, between 70,000 and 90,000 people sustain traumatic brain injuries (TBIs), and approximately 10,000 people survive spinal cord injuries (SCIs). Motor vehicle crashes and falls are the leading causes of these injuries, with firearm-related violence adding its toll to spinal cord injuries. In both cases, adolescents and young men are at the greatest risk. Although survival rates for these traumatic injuries have improved, secondary conditions continue to compromise the quality of life for people affected by TBI/SCI, as they have for other disabilities. The prevalence, severity, and costs of secondary conditions have led to increased attention from researchers and clinicians, augmenting continuing attempts to prevent TBI/SCI through primary prevention.

During the 1980s, disabilities were added to the list of adverse health events that could be understood and prevented using the traditional tools of public health. As a result, the Disabilities Prevention Program (DPP) was created within the Centers for Disease Control and Prevention (CDC) in 1988. DPP's mission was to promote the health and quality of life of people with disabilities and to prevent conditions that cause disabilities, making it the only federal program with a specific mandate to prevent disability.

To fulfill its mission, DPP pursued a variety of activities to:

- provide states with technical and financial assistance to build disabilities prevention capacity;
- · establish surveillance systems for disabilities;
- · identify risk factors for disabilities; and
- · identify and develop appropriate interventions to prevent secondary disabilities.

Prevention efforts focused on five disability areas:

- fetal alcohol syndrome
- · mild mental retardation
- secondary conditions among children with cerebral palsy. spina bifida, or sickle cell disease
- traumatic head and spinal cord injuries, and
- secondary conditions among people with head and spinal cord injuries.

¹ AM Pope and AR Tarlov (eds.). Disability in America: Toward a National Agenda for Prevention, Institute of Medicine, National Academy Press, Washington, DC. 199 1.

B. Funding History for State Programs

The DPP initially funded nine capacity-tuilding cooperative agreements with state agencies to support disability prevention efforts. The purpose of these awards was to help recipients develop their own state-level programs for studying, preventing, and minimizing the effects of disabilities.

Over time, the number of funded states creased — to 2 1 states in 1991, 28 in 1992, and 30 in 1995. At the time of this study, a tal of 29 states were supported with DPP funding to build capacity for disability-re ated surveillance, interventions, project management, and evaluation. Over the 9 rear period (1988-1996), the funding level ranged from slightly more than \$2 millic in 1988, to a high of \$10.3 million in 1995.

From their inception, the capacity-build' one or more of the five disability areas enumerated by DPP in its Program Anrichoose their areas of concentration.

g cooperative agreements to states focused on sted above). Within a set of priorities uncements, states were given the flexibility to

Coordination of the program was located in what was then the Center for Environmental Health and Injury Control (CEHIC). So entific oversight of the TBI/SCI disability areas involved the Injury Division within CEHOO, which moved in 1992 to CDC's newly established National Center for Injury Powention and Control (NCIPC). A third center, the National Center for Chronic Diseased revention and Health Promotion, also provided technical guidance and support.

C. Purpose of Study

After nearly ten years of experience wit the program, NCIPC was interested in examining the states' experiences and defining the center therefore commissioned this stund to answer the following key questions:

- Is there a consensus on the goal of the programs and what constitutes a successful program?
- What are the goals and critical p ogram components?
- What indicator(s) could be used o determine that a program has been successfully implemented?
- What indicator(s) could be used to determine whether a program is moving toward and attaining the desired goals?

This project focused on state capacity-building efforts in only two of the five disability areas: TBI/SCI, and secondary conditions associated with them. By answering the above questions, NCIPC hoped to be able to define the critical components for establishing and maintaining an effective state-based program for preventing TBI/SCI and related disabilities. Furthermore, NCIPC anticipated that the lessons learned would help them to design more effective capacity-building programs in the future, monitor and refine existing

programs, and would serve as the basis for evaluating program impact

D. Definition of Evaluability Assessment

The tool chosen for this study was an "evaluability assessment," defined in the literature as "a process for analyzing a program to assess its structure, and to determine plausibility of the program achieving intended goals, the evaluability of those goals, and the utility of implementing further evaluation of the program." Put more simply, an evaluability assessment answers a few key questions about a program:

- What program parts are evaluable and worth evaluating?
- · What needs to be changed in the program?
- What are the implications for future program goals, activities, and resources?

Thus, an evaluability assessment can be useful for programs at various stages of development.

- 1. For a **long-standing program**, such as the DPP, it can help decide whether to pursue a full-blown evaluation of the program and determine:
 - · whether the program accomplished what was intended;
 - · what needs to be changed; and
 - · what was learned that is useful and relevant for future programs.
- 2. For a **program in mid-course** (e.g., the second year of a 5-year program), it can identify aspects of the program that, if changed, would make that program more effective.
- 3. When designing a **new program**, it can help shape that program by providing a structured process for defining desired program outcomes and the best course of action for achieving those outcomes.

Evaluability assessments produce two important measurement tools:

- **Measurable Program Components** the most important elements of an effective program and specific indicators with which to determine if those program components are in place. These components include:
 - Assumptions underlying the program
 - · Major Activities that the program supports
 - Objectives that will be accomplished if all activities are performed as expected
 - · Short- and Long-term Goals that represent the ultimate aim of the

² M.F. Smith. *Evaluability Assessment: A Practical Approach*, Kluwer Academic Publishers. Boston. **1989.**

program.

• **Program Logic Model** — depicting the relationship of the measurable components to one another. The causal chain depicted in a logic model is particularly important, because it explicitly states the dependence (and interdependence) of program components on each other. It is an important test of the plausibility of the program design.

II. METHODOLOGY

The project was initiated in August 1996, and consisted of a series of five tasks carried out over the course of one year. All tasks were pursued in close collaboration with the NCIPC Project Officers.

Task 1. Preparation of Project Workplan

In consultation with NCIPC staff, a workplan was prepared of major project steps, deliverables, time line, and staffing.

Task 2. Review of Evaluability Assessment Literature and Program Documents

A literature review was conducted to review similar evaluability assessments, particularly those that have assessed federal public health programs implemented through state and/or local health departments. A preliminary Internet search yielded 100 evaluability assessments, ranging from disease or condition-specific assessments (such as diabetes, cancer, or AIDS) to programmatic assessments of education, welfare, and training programs. About half of these assessments were determined to be relevant to the current assessment of CDC-funded TBI/SCI programs, with relevance defined as follows:

- assessments of state-level programs, especially pilot or demonstration programs,
- those addressing new or emerging health or social problems, and/or
- those geared to building capacity or infrastructure at the state level.

Unfortunately, the actual documents were difficult (and, in most cases, impossible) to obtain — either because they had been archived or because staff overseeing them had changed jobs and could not be located. As a result, the scope of this review was modified to include the assessments that were available, as well as a summary of two approaches to evaluability assessment.³ In addition, Richard Schmidt, the author of one of the evaluability assessment guides, was interviewed.

Relevant background materials were also reviewed, including descriptive and strategic statements such as *Disability in America*, as well as more recent national conference proceedings, grant guidance documents, program announcements, project quarterly and

M.F. Smith. Evaluability Assessment: A Practical Approach, Kluwer Academic Publishers. Boston. 1989.

Richard E. Schmidt. John W. Scanlon. and James B. Bell, *Evaluability Assessment: Making Public Programs Work Better*, Department of Health. Education, and Welfare, Washington. DC. 1979. Publication No. OS-76-130.

³ The two books on evaluability assessment are:

annual reports, program reviews, and research reports.

Section III.A. summarizes the results of the literature review and implications for this project.

Task 3: Interviews of Stakeholders

Interviews were conducted with selected federal and state stakeholders who had a background or an interest in the DPP. The intent of the interviews was to elicit respondents' perspectives on the overall ξ oals, activities, resources, and structure of state TBI/SCI capacity-building programs. Five categories of stakeholders were identified:

- State project managers and staff;
- DPP and NCIPC staff directly involved with state projects;
- CDC management officials;
- Directors of other Federal agencies with an interest in disability; and
- Congressional members on relevant appropriate and authorization subcommittees.

Interviewees were selected in close constitution with the CDC technical monitors for this project, to assure that together they represented a range of experience with and perspectives on the program. Since only a sample of the state projects could be included in the interview process, a special attemption was made to choose projects that **collectively**:

- had demonstrated strengtl in the broad spectrum of required program components;
- had staff currently on-site vho were knowledgeable about the program's intent and operation; and
- covered the various fund: g phases (i.e., 1988, 1991, and 1994).

A fact sheet was prepared, briefly summ rizing the purpose of the evaluability assessment, methodology, and time line. DPP staff rade an initial contact with all interviewees to explain the project and gain agreement to participate. The fact sheet, or a modified version, was shared with all interviewees by fax or e-mail prior to the interview.

Separate interview guides were prepared for each stakeholder category to ensure that the interviews remained focused and consistent. (See Appendix D for a sample of the guides.) Interviews with CDC staff were conducted in person; the others were completed by phone. They ranged in length from 30 rrinutes to 2 hours. A total of 26 interviews were conducted between January and March 997. Included in this total were:

- Eight (8) state program managers;
- · Seven (7) DPP staff (either in NCEH or NCIPC);
- · Eight (8) CDC management officials and staff and
- Three (3) individuals from other agencies or organizations with an interest in disability (Center for Medical Rehabilitation Research, National Institute on Child Health and Development, National Institutes of Health; National Council on

Disabilities; and National Institute for Disability and Rehabilitation Research)

Letters were also sent to five Congressmen on relevant appropriation and authorization subcommittees, with responses pending. (See Appendix E for a list of interviewees.)

A summary of these interviews can be found in Section III.B.

Task 4: Preparation of Logic Model

The results of the literature review and interviews were then analyzed to prepare the measurable components and logic model for state-level TBI/SCI programs. This analysis process began with a determination of the long-term goals of the program — its ultimate aim over 5-10 years. The sources for the goal statements were various program announcements and interviewees' responses to the question: "What do you think the DPP is trying to accomplish for TBI/SCI activities?"

Next, the short-term (1-3 year) goals were enumerated, primarily based on interviewees' answers to two questions:

- "What changes or differences is the program making?"
- "What would have to happen for you to consider the program a success?"

With these goals as a framework, four clusters of activity emerged from the analysis of the literature and interviews:

- **Organization** administrative, managerial, and infrastructure tasks related to setting up a program and maintaining its operational capacity and visibility
- · Data surveillance and other data collection and dissemination activities
- **Policy** activities that support changes in the legislative or policy arenas
- Intervention state and local interventions that affect TBI/SCI incidence and contribute to the national research base about innovative approaches to primary prevention and prevention of secondary conditions associated with TBI/SCI.

For each area, specific objectives were defined to reflect an idealized consensus on "desired performance" — what each state program could *and should* strive to achieve. Specific program activities for each area were also ascertained, with a particular eye toward distinguishing those activities that should be pursued early in the life of a program (in the first 1-2 years) from those that should be initiated after a program is more mature (in the next 3-5 years).

Lastly, the assumptions underlying the entire program (events that must or must not happen to allow the program to proceed and flourish) were drafted. The driving force throughout the analysis was the intent to search for the **optimal** set of goals, objectives, activities, and assumptions. The resulting logic model is thus one that does not reflect any single state program. but includes the best of all programs. It depicts a pragmatic flow of what was learned during the past decade about the essential elements of a successful

capacity-building program at the state level. It relies on an honest retrospective (and introspective) examination of program experience to ascertain what worked, what didn't work, and what could have been done differently.

Once the logic model was drafted, measurable indicators for each objective and activity were created, again based primarily on interview responses. Relevant interview questions for this phase of the analysis included: "How would you know if an activity were being successfully carried out? What indicators would you **use?** What data sources, if any, are available currently to measure these indicators? Do you have easy access to these data sources?' Development of the indicators had the added benefit of "forcing" a thorough review of the logic model to **assure** that all of its components were properly positioned in relation to one another, and that no essential component had been overlooked.

The resulting logic model and measurable components were reviewed extensively by NCIPC staff, then presented to state program managers during a full-day meeting in May 1997. This meeting allowed program managers time for individual reflection on the documents, as well as structured time for small and large group discussion. Numerous suggestions were offered to improve the model's relevance and completeness, to assure consistent use of terminology, and to make the model more "user-friendly."

After subsequent revision, the model was again reviewed by state program managers; this time only minor wording changes were required. A comparison of the logic model with existing program goals (as defined in program announcements, mission statements, and interview responses) concluded that a single logic model could encompass variation among state programs, and that the model and its underlying program objectives were consistent with program goals.

The resulting logic model and measurable components are presented in Section IV of this report.

Task 5: Feasibility Assessment of Process and Outcome Evaluations

In the final phase of the project, the indicators and sources of data were examined in terms of their feasibility for future process and outcome evaluations. This analysis included assessments of the availability and accessibility of data across programs, comparability of different indicators across programs, and gaps in information needed for both process and outcome evaluations. It was concluded that a full-blown evaluation of this program would not be feasible, due to recent changes in program direction and funding priorities, difficulties in obtaining needed data, and cost considerations.

Task 6: Final Report Preparation

This report represents the culmination of the evaluability assessment. Its remaining sections summarize our findings and their implications for future program planning and evaluation.

A. Results of Literature Review

Findings from our literature review are divided into two areas. The first, entitled Scientific Literature Review, summarizes information from the works of Smith and Schmidt on the characteristics and purpose of evaluability assessments, methodologies, and potential products and uses. The second, Review of Relevant Assessments, provides brief analyses of two relevant evaluability assessments which were obtained. Implications for the current assessment are highlighted throughout.

1. Scientific Literature Review

Characteristics and Purpose of Evaluability Assessment

The three primary purposes of evaluability assessments, according to Smith, are: 1) to improve future evaluations, 2) to improve existing programs, and 3) to develop or plan programs. Likewise, Schmidt notes that evaluability assessments are often used as a preliminary step to determine whether a program can be evaluated; however, he does not see this as their most useful outcome. Because evaluability assessments try to capture the underlying logic of programs — the cause and effect linking specific activities with potential outcomes — they also serve an important function in *describing* programs and their rationale. Because of this, they serve an important management and oversight function. (This is particularly true when the specific rationale and assumptions for a program were not articulated in detail when the program was launched. or if the program has changed over time.) Instead of a test for evaluability, the evaluability assessment can be seen as a test of whether or not the program design is plausible. If the preliminary evaluability assessment steps reveal that a program is not plausible — that is. a program whose activities cannot reasonably be expected to lead to intended outcomes — then the evaluability assessment process should be interrupted until a plausible program design and description is in place.

According to Schmidt, a number of structural factors imbedded in the federal-state relationship can lead to divergence between the perception of program goals and the translation of those goals into program operations. These include the nature of budgetary and funding cycles, changes in leadership (and thus direction) at both policy and program levels, and differing priorities between program designers and program implementers. Although these differences can be awkward or even painful to reconcile, both Schmidt and Smith point out that a consistent program description is a prerequisite for moving forward with evaluability assessment.

Evaluability Assessment Methodology

Smith identifies 10 tasks comprising an evaluability assessment:

- 1. Determine purpose, secure commitment, and identify Workgroup members.
- 2. Define boundaries of program to be studied.
- 3. Identify and analyze program documents.
- 4. Develop/clarify program theory.
- 5. Identify and interview stakeholders.
- 6. Describe stakeholder perceptions of program.
- 7. Identify stakeholder needs, concerns, and differences in perceptions.
- 8. Determine plausibility of program model.
- 9. Draw conclusions and make recommendations.
- 10. Plan specific steps for utilization of evaluability assessment data.

Schmidt's steps are a more condensed version of the same tasks:

- 1. Describe the program.
- 2. Analyze the program description.
- 3. Construct alternatives.
- 4. Implement evaluability assessment findings.

In both approaches, information describing the program is sought from different perspectives — those of program designers, operators, and other stakeholders. Respondents are typically asked the following types of questions. which echo the tests of plausibility cited earlier:

- What is the purpose of this program?
- · What activities are supported?
- · What happens before and after these activities?
- · What are the effects or outcomes of these activities?
- · What resources are required? What resources are available?
- What is the evidence of successful performance? ("How do we know we're done?")

Schmidt suggests that another way to understand program design is to complete the following matrix:

Design Level: Narrative Statement	Objectively Verifiable Indicator	Source of Data	External Assumptions	End of Program status
GOAL				
PURPOSE				
OUTPUTS				
INPUTS				

Schmidt defines each of the terms in the above matrix as follows:

- Goals provide the higher-level context objective the reasons why a program is being implemented and how it ties into other programs.
- **Purpose** is the reason for funding the program the "bottom-line" outcomes that are expected.
- **Outputs** are the immediate results or products of the program.
- **Inputs** are the specific resources devoted to the program. including staff, funds, and staff functions. Related to this is an indication of how resources are tied to activities, i.e., what use will be made of them.

For each goal, purpose, output, and input, Schmidt suggests listing indicators, data sources, external assumptions, and the status at the end of the program.

Indicators are used to define whether everyone agrees on the design statements. A **useful** way to define indicators is as a measure that both a program supporter and an informed skeptic (or antagonist) would agree is a signal that the objective has been achieved.

Source of data includes not only where and how the data will be obtained, but also whether it is economically reasonable to do so.

External assumptions are the events that must or must not happen to move the program to the next level — the facilitators and barriers to program achievement Schmidt suggests that this step is particularly helpful in revealing unrealistic assumptions about what is within a program's control (such as massive shifts in attitudes or behaviors or legislative changes).

End of program status is a measure indicating when federal funds are no longer needed. For state TBI/SCI programs, this question (and others) requires consideration at two levels. From a capacity-building perspective, the program could be considered successful when states have relatively stable infrastructures in place to carry out the work described in cooperative agreement guidelines. At another level, however, the state programs may envision the true endpoint as reduction (or even elimination) of primary causes of TBI/SCI.

Preparation of Logic Models

Analyses of the content and sequence of activities lead to the development of logic models. A logic model is a commonly used tool to array the assumptions underlying a program, the activities that **a** program supports, and the program's objectives and goals. For programs that are designed to intervene in a social or health problem, the causal chain depicted in a logic model is particularly important. Schmidt notes that many programs, for the most well-intentioned reasons, are overly ambitious. This can take the form of inadequate resources arrayed against a problem, or inappropriate activities to accomplish a given goal. In either scenario, logic models can make explicit the implicit assumptions behind what can reasonably be accomplished with given resources. As noted above, the logic model is an important test of the plausibility of program design.

Two other types of models are often used in conjunction with logic models. These are **functional** models, which depict the flow of program activities, and **measurement** models, which tie evaluation questions and specific markers to events and assumptions in a logic model.

Use of Evaluability Assessment Results

Both Schmidt and Smith caution against the *misuse* of evaluability assessment results — particularly, the mistake of proceeding to evaluate a program that does not pass the scrutiny of a rigorous logic model and program description. Under these circumstances, an evaluation cannot succeed, for it is attempting to measure objectives that cannot be achieved. Indeed, many evaluability assessments cited by the authors resulted in a return to the program design stage — a step they both view as positive and necessary. Such a reexamination can take the form of changing management's expectations of a particular program (usually scaling them down to more realistically match activities and resources), or altering the types of activities that a program should undertake (to improve the likelihood of accomplishing program objectives).

Review of Relevant Assessments 2.

The two studies which had relevance for the current evaluability assessment were:

- The Evaluability Assessment of the CDC Environmental Emergency Response Program; and
- The Child and Adolescer: Service System Program (CASSP) Initial Cohort Study.

The Evaluability Assessment o the Centers for Disease Control Environmental Emergency Re ponse Program

This assessment, conducted in 1 33-84 by Macro Systems, Inc., focused on a CDC program which assisted St te and local health departments in identifying public health problems related to environmental emergency situations and alleviating the threat, thereby a iding or reducing related injury, illness, and death. The purpose of the evalu bility assessment was to develop a program description and assess the progr n's readiness for evaluation.

important outcome of the study achieving broad program goals. model and a set of assumptions communication, availability of resources, and other factors.

The study concluded that the pragram was not evaluable because of a lack of agreed-upon measures for progr n performance (particularly as they related to the long-term goals) and the lack of n operational, comprehensive data system by which to measure progress towa : these goals. However, the single most as the resolution of program goals the description of program activities and CDC's acceptance of its accountability for 'he goals and activities are reflected in the logic r each activity related to staff capabilities,

Four key lessons were particula v noteworthy:

- A close, structur 1 working relationship had been established between the con: actor and the CDC program being studied.
- The logic model ddressed state activities for the short and long term. Considera- on as also be given to including CDC activities in the model.
- A clear identifica on of the relevant local, state, and federal agencies — and reir respective roles — was useful.
- A cogent description of the major issues identified by interviewees and the recommended options for addressing each issue was a planned outcome of the study.

The Child and Adolescent Service System Program (CASSP) Initial Cohort Study

This study, also conducted in 1983-84, was directed by the Research Triangle Institute. Its purpose was to document the experiences of 5-year grants for Child and Adolescent Service System Programs (CASSP) in ten states, funded by the National Institute of Mental Health, and to recommend methods for ultimately assessing their effectiveness.

The study found surprising heterogeneity among the ten states, particularly in terms of their "starting points." There was also variability in program objectives and emphases across projects, although as a group they were entirely consistent with NAMH's guidance and intent. Frequently cited barriers to accomplishing these objectives were: lack of resources, lack of trained personnel, lack of public support, and barriers related to state bureaucracy or characteristics of the state's geography or population. The study also identified "facilitators" perceived by stakeholders to have boosted project efforts: prior efforts to develop mental health service systems. support from high-level administrators, and a tradition of state-level involvement in service planning and provision,

Although the CASSP study technically was not an evaluability assessment, several elements of the study design were relevant and worth considering:

- The use of a "cohort" approach in identifying project states to interview and in analyzing information.
- Interviewing stakeholders about factors which they perceive to have served as barriers and those which may have facilitated program efforts.
- Examination of the "legacy" which may have been created, or could potentially be created, as a result of federal funding. This would involve collection and analysis of information on steps states have taken (and accomplished) to become self-sufficient after federal support is withdrawn.

B. Interview Summary

This section summarizes interviews with state and federal stakeholders involved with the TBYSCI programs. Information is presented in six general areas: program goals, impact, activities, resources. structure and organization, and evaluation.

1. **Program** Goals

There was remarkable agreement among all respondents on the overarching goal of the DPP. Simply, this goal is to prevent TBI/SCI and disabilities associated with these injuries. Respondents also concurred that this is an appropriate goal for

state health agencies and the public health sector to pursue.

Because of the broad nature of this goal, however, respondents varied in the way they translated it into practice. While all recognized that the goal encompassed both primary prevention of TBI/SCI and the prevention of secondary conditions after an injury had occurred, they differed in the emphasis they chose to place on each. Some CDC and state project staff viewed disability prevention as a continuum, from prevention of the initial injury occurrence through rehabilitation one the injury occurred; others saw a more distinct difference between the various stages and felt compelled to emphasize one over the other (particularly given limited funding). In most cases, this meant a concentration on primary prevention activities, since that is where they had the most experience, the greatest comfort level, and the most vocal and persuasive constituent advocates.

Many CDC respondents shared an expanded vision of the agency's role in disability prevention, encompassing such responsibilities as:

- developing a national focus for disability prevention,
- · increasing visibility and attention for disability issues both within CDC and throughout the public health community at large,
- · developing a strong constituency for disability prevention,
- developing a national data base on the magnitude and burden of disabilities, and
- conducting research to further the disability prevention science base.

When asked if the program goals were realistic, the majority of state and CDC respondents felt that CDC's initial expectations may have been too ambitious. In hindsight, most wished that a shorter, more focused set of required activities would have been proposed, allowing states to establish a firm foundation of effort during the initial years of funding and then build on that foundation with continuation awards.

State project staff also expressed frustration with what they perceived to be ever changing emphases in Program Announcements, which they attributed to the lack of a CDC strategic plan for disability prevention and to the discomfort created by an insufficient science base. The lack of a solid science base to provide guidance and direction left states on their own to determine how to interpret CDC's broadly outlined expectations. This tension between the need for a firm scientific foundation and the drive to issue grant awards and involve states was acknowledged by most CDC interviewees as well.

2. Program Impact

Respondents unanimously concurred that the program has had a positive impact at both state and local levels. They noted that not enough time had passed to measure changes in injury or disability incidence resulting from the DPP; however, they shared a variety of examples of intermediate effects, which can be categorized into six areas.

- 1. For nearly all respondents, the most significant accomplishment of the DPP was the institutionalization of **improved data systems**. As a direct result of DPP funding and NCIPC technical assistance, states now have operating surveillance systems for TBI/SCI and can use these systems to describe the magnitude of the problem in their states, identify priority needs and gaps, and design and evaluate targeted interventions. Many states also have expanded the use of e-coding to get a better handle on the causes of TBI/SCI. Additionally, a few states have gone beyond surveillance of injuries to begin examining the prevalence of secondary conditions associated with TBI/SCI. Through registries and follow-up protocols, they are collecting information on the functional limitations and service needs of persons with TBI/SCI and, in some cases, using this information to improve referral patterns.
- 2. A number of state **policies and legislative proposals** were stimulated by project data; others were the result of strong advocacy efforts. They can be viewed as "enablers," providing a compelling foundation for disability prevention efforts. Examples included the adoption of reporting requirements for TBI/SCI, policies mandating the sharing of data sets, seat belt and helmet **use** laws, and resolutions establishing advisory bodies.
- 3. Increased awareness of the magnitude and burden of disability was another frequently cited program impact. This was felt to be true in a variety of sectors: within CDC, within state and local health departments, at the community level, among legislators, and throughout the medical community.
- 4. With a policy and legislative base have come improvements in **intenentions** for both primary prevention of injuries and prevention of secondary conditions. Respondents felt that the program has enhanced the capacity at state and local levels to plan, deliver, and evaluate effective, data-driven interventions for preventing TBI/SCI (e.g., safety belt and child car seat programs).
- 5. The mere act of providing **funding** to states for disability prevention, no matter how large or small, demonstrated the importance of this new area for Congress, for CDC, and for public health. States used this funding in a positive way to enrich surveillance and primary prevention activities, and/or

- to pursue some secondary prevention activities. The funding also served as "seed money" and allowed states to use it for approaching others for supplemental funding, personnel resources, other equipment and supplies, or other in-kind support.
- 6. Because of the cross-cutting nature of disability prevention, respondents felt that the program built new **relationships** and strengthened or realigned those that already existed. Particularly positive alliances were struck among health department programs, between the health department and other agencies (e.g., Medicaid, rehabilitation, and education agencies), between the state project and area hospitals (especially those providing rehabilitation and trauma care), and among a variety of other public and private agencies.

3. Program Activities

Activities During Years 1 and 2

Both state and CDC respondents agreed that the most important tasks during the first two years of funding were **organizational:** building the project team, determining or negotiating the project's organizational placement and lines of authority within larger state agencies, coordinating efforts with other public health and related agencies, identifying and securing sources of legislative support, and developing a strategic plan.

Selecting and convening an **advisory council** was mentioned by both CDC and state project staff as a clear expectation for the first year, although there were differences of opinion (from states) on the feasibility and usefulness of advisory councils.

In addition to these organizational priorities, most respondents agreed that **surveillance activities** should be launched during the first year if they were not already in place. At a minimum, this included analyzing existing data sets to reveal gaps that should be addressed by a **more** ideal surveillance system. Preliminary or more sophisticated data were to be used to identify priority areas warranting interventions or further study; these, in turn, would be articulated in **strategic plans.** States that already had some TBI/SCI surveillance in place expected and planned to expand their coverage (for example, adding TBI to existing SCI data systems).

A few respondents also noted that some **community interventions** could be funded during the first year or two, even in the absence of hard data. Candidates were mostly primary prevention interventions that had been proven effective elsewhere (such as safety belt or bike helmet education and promotion). The purpose of finding interventions early in the process was to help increase awareness of disability as a public health issue and to raise the nen- program's

visibility throughout a given state. On the whole, however, both CDC and state respondents thought that the simultaneous development of an organization, surveillance efforts, and a set of interventions was too ambitious for the program's first year.

Activities During Years 3-5

As states moved past the initial year or two of funding, they continued to maintain or expand the surveillance systems, organizational infrastructure, collaborative partnerships, advisory councils, and planning functions that were initiated earlier. During this period, both CDC and state respondents expected a higher level of activity and visibility from the state offices. As with the earlier funding, however, state respondents believed that these activities were more time-consuming and difficult than envisioned and that some of the changes in CDC's expectations were not always within their control.

As surveillance systems expanded and yielded more data, other program elements also could be expanded accordingly — such as reports disseminating surveillance information, "minigrants" for counties or local organizations to target priority areas, and more comprehensive plans for future activities. Being recognized as a reliable source of TBI/SCI data and serving as resources to the disability community were two markers of expanded, useful surveillance systems.

In some cases — particularly with **advisory council** development — this "maintenance" involved a certain amount of trial and error, as well as an occasional change in emphasis. In two of the eight states, problems with the formation and function of the advisory council led the directors to abandon an advisory council altogether (although one state still plans to convene one in the future).

During this period, many of the state disability projects were elevated within their **state agency structures** to a level closer to the Commissioner or State Health Officer, either as a separate entity or by being combined with other programs such as injury or chronic disease. It should be noted that some of these changes reflected increased visibility and support for the office's disability work, while others could be characterized as more random side-effects of agency reorganizations.

Armed with more plentiful (and more sophisticated) data, stronger partnerships (through advisory councils and/or collaborative work), and preliminary research and intervention results, state disability staff felt more prepared to support legislative changes. Thus, the **policy** realm — encompassing legislative changes in program funding, ordinances, and relevant state laws — is another area that gained momentum in subsequent years of funding.

The hallmark of activity in subsequent years of funding was the transition to

funding and supporting **local interventions**, often on a modest or pilot basis. Again, interventions were overwhelmingly concentrated on primary prevention, although some secondary conditions were addressed.

In addition to funding specific interventions across the state, many state disability offices saw themselves in a broader role of providing **technical assistance** to their local counterparts. These efforts translated into evaluation and grant-writing workshops, "best practices" meetings for grantees, customized data dissemination to counties, and other capacity building activities. In this sense, state offices wanted to replicate the CDC-state relationship at the state-local level, with the ultimate goal of fostering strong and self-sufficient local efforts with in-house capabilities for determining priorities based on data and designing interventions accordingly.

4. Program Resources

Both state respondents and CDC staff generally agreed that the funding levels were relatively modest and often inadequate, given the ambitious nature of the early program announcements. They viewed the funds, for the most part, as "seed money" for start-up activities or expansions, with the hopes that additional funding could be garnered from other sources. States noted (some with **surprise**) that they had been able to accomplish a great deal by using the initial funds to attract other sources. While states varied in their ability to use CDC funds to leverage other resources, fruitful funding sources have included:

- Traffic safety funds, especially from the National Highway Traffic Safety Administration (NHTSA), Governor's Office of Highway Safety (or equivalent), earmarked funds from speeding or drunk driving fines
- Public and private disability organizations, such as the National Institute for Disability and Rehabilitation Research and state TBI/SCI commissions
- State and local health departments
- Maternal and child health and other reproductive health groups within the health department or other state agencies
- Prevention block grants
- Safe Kids coalitions, both state and local
- Hospitals, especially trauma centers
- Rehabilitation organizations
- Corporations, particularly through donating or purchasing discounted bicycle helmets, child safety seats, etc.

In addition to providing funding, many of these organizations also offered staff time or otherwise contributed as partners to specific intervention efforts.

5. Program Structure and Organization

In all but one of the eight states, the disability project was situated within the health department. The exception is South Carolina, which houses its disability project in the Department of Disabilities and Special Needs. While CDC required states to establish a distinct office of disability prevention, health departments had difficulty finding a natural home for such an office. Both CDC and state respondents agreed that the office should exist at a high enough level to play a *cross-cutting* guidance role throughout the agency's varied programs, while maintaining the necessary *operational links* to epidemiology, injury, developmental disabilities, and chronic disease.

Although many of the state disability projects started out as distinct offices, they tended to be housed initially within a larger center or division at least three levels away from the agency's leadership. At least one state solved this problem by developing a direct reporting relationship to the Commissioner, instead of moving through the layers of management.

Over time, some of these office. were elevated within the state agency structure, either as a result of a conscious fort to increase visibility or as a byproduct of a reorganization. In most cases, h wever, this rise in status was achieved by merging the disability office witl- a related program (e.g., injury or chronic disease). The offices' activities ere heavily influenced by their organizational home. For example, if located it an epidemiology division, the project's emphasis was on surveillance. If allied with the Council on Developmental Disabilities, the emphasis was on prevention of s condary conditions. An injury-oriented home tended to result in a primary pre ention focus.

In general, state respondents agreed with CDC staff that regardless of their specific location, the key elements of or anizational placement for state offices of disability were:

- Access to epidemiologic expertise;
- Access to the Commissioner or Deputy Commissioner (for internal programmatic decisions as well as external fund raising, advisory council appointments, etc.); and
- Access to other agencies involved in disability issues.

6. Program Evaluation

CDC respondents were asked their views on the value of a full-blown evaluation, should the evaluability assessment conclude that such an evaluation would be feasible and desirable. While most expressed an interest in using the results of a process evaluation for planning future state disability and injury programs, all felt that an evaluation of program outcomes would not be productive at this time. They recognized the potential value of a process evaluation for developing future

program announcements, determining and negotiating awards, providing technical assistance, and identifying research needs. One interviewee suggested that an evaluation at this point in the DPP could be viewed as a baseline against which to compare the results of a follow-up evaluation in 3-5 years.

Questions that respondents were most interested in answering via an evaluation included:

- What is the burden and cost of disability?
- What is the relative contribution of chronic conditions, injuries, and developmental disabilities to disability?
- What is the need for a national disability program?
- What are the characteristics of an effective state project, both organizationally and functionally?
- What are the characteristics of effective CDC support?
- What types of interventions have been implemented, how many, what have been the results?
- What types of partnerships have been formed, how many, and what have they accomplished?
- What types and level of additional (non-DPP) resources have been brought to bear on disabilities?
- How successful were states in carrying out required disability activities?
- What gaps in disability prevention exist?

IV. LOGIC MODEL AND MEASURABLE COMPONENTS

As described above, evaluability assessments yield two types of products: (1) a logic model depicting the causal chain among program assumptions, activities, objectives, and goals; and (2) a set of measurable components or indicators that can be used to compare or evaluate programs further.

This section presents a logic model (Appendices A and B) and a set of measurable components (Appendix C) for state TBI/SCI programs. App ndix A is an overview of TBI/SCI assumptions, activities, objectives, and goals. Appendix B is a more detailed version of the same logic model. It provides additional detail on major TBI/SCI a: rivities, showing the different clusters of activities that might be appropriate for an initial—hase as compared to subsequent phases when a program is more established. Appendix C provides a preliminary list of measurable components and data sources that could be used to determine whether or not the activities in the logic model are in place in a particular program.

All three documents emanate from the same ass mptions, activities, objectives, and goals; they differ only in the level of detail and emphasis provided for different aspects of the model. A key organizing principle for the documents is the clustering of program activity into four areas:

- **organization** administrative, I anagerial, and infrastructure tasks related to setting up a program and maintair ng its operational capacity and visibility
- data surveillance and other da; collection and dissemination activities
- **policy** activities that support canges in the legislative or policy arenas
- **intervention** state and local i: erventions that affect TBI/SCI incidence and contribute to the national researc—base about innovative approaches to primary prevention and prevention of sec ndary conditions associated with TBI/SCI.

Although activities were grouped into these clus ers for analysis and descriptive purposes, there is clearly significant overlap among these categorics.

The logic model and measurable components documents reflect a certain amount of idealized consensus gained from 20-20 hindsight on the part of state and CDC program staff. During their interviews, these stakeholders were asked to critique their past experience, link specific program components and activities with reported "successes," and describe what they would have done differently if they had the opportunity to "start core." Interview results were then analyzed to derive consistent themes with respect to assumptions, goals, objectives, and activities. Once these themes had been characterized more precisely, they were presented to stakeholders for review—once in a full-day meeting in Atlanta, then again by mail. The final documents reflect comments and concerns raised during this deliberate analytic process.

No one state currently has all of the model's program components in place. Similarly, some components do not currently exist in any state. The documents reflect a pragmatic sense of what

worked for programs and what was learned through trial and error. They represent a program model that is generic enough to absorb the inevitable variations in different programs, but that is specific enough to provide guidance and a degree of consensus about the core elements and sequence of activities for a successful program.

A. Overview of Logic Model

Appendix A shows the relationship among the underlying assumptions for CDC and state agencies, the four activity streams (organization, data, policy, and intervention), program objectives, and short- and long-term goals.

1. Underlying Assumptions

The underlying assumptions delineate the partnership between CDC and state programs to accomplish the program's goals. As noted earlier, the TBYSCI program was somewhat unique in that both CDC and state program staff were devising public health approaches to disability prevention at the same time. There may well be additional assumptions that apply to specific programs; indeed, these have shifted over time and, like all elements of the model, are worth revisiting periodically to ensure that they still capture the intent of program planners at both the federal and state levels. Based on interview findings and state and CDC feedback on a preliminary draft, the following assumptions were identified:

CDC provides:

- a national disability focus
- coordination and promotion of state projects
- technical and scientific guidance
- · management support and oversight
- · "catalyst" funding for statewide programs
- · technology transfer support.

The state agency agrees to:

- participate fully in a national disability program
- · maximize consumer involvement
- · implement policies, laws, interventions, and services throughout the state.

2. Organization: Building a Solid Foundation

The first set of activities for state disability programs typically involved creating a new organizational structure. This required negotiating reporting relationships and organizational placement within a larger agency (typically, a state health department), securing funding and other resources (such as staff with specific training), establishing an Advisory Council, identifying and pursuiny partnerships

with other departments and organizations, and initiating a strategic planning process.

3. Data, Policy, and Intervention: The Activity "Loop"

Appendix A shows a dotted line surrounding data, policy, and intervention activities. In addition, these activities are linked by two-way arrows, to emphasize the iterative relationship among them. For example, data analyses may identify needed policies or interventions; once these are in place, evaluation and further data analyses can reveal whether they were effective.

Data activities include posing appropriate questions, identifying partners (such as managers of SCI registries, CDC surveillance coordinators) who can assist in collecting or interpreting data, identifying potential sources of data and any gaps in data required for decision making, designing and implementing comprehensive and useful data systems, analyzing the results of data collection efforts, compiling profiles of who is most affected by TBI/SCI, and disseminating the results of data analyses to policymakers, grantees, and other data partners.

In the **policy** arena, activities include an assessment of the policy environment to identify gaps (such as needed laws or ordinances) and potential panners, designing and implementing specific strategies, and documenting the impact of these policies once they are in place. As Appendix A shows, policy activities (along with data and intervention activities) lead to accomplishment of the program's objectives. However, they also can lead to overall **support** for the program by broadening its constituency (depicted by the arrow at the top of Appendix A, linking Policy with Short-term Goals).

Intervention activities include identifying gaps that could be addressed through specific interventions, initiating partnerships with local grantees and others (such as universities), establishing a grants process with clear criteria, providing technical assistance as needed, monitoring interventions to ensure their quality, disseminating findings from evaluation research, and designing new strategies that take into account lessons learned from previous research and interventions. Just as policy activities can help generate support for state disability programs, intervention activities contribute to local and national **knowledge** about what works (depicted by the arrow at the bottom of Appendix A).

Together, the activities within the dotted line or "loop" lead towards accomplishment of the program's objectives, discussed below.

4. Program Objectives

Twelve objectives were identified. Some, such as the data objectives, correspond neatly to contributing data-related activities; most, however, do not link directly with a particular set of activities. Instead, the activities as a whole result in

accomplishment of the objectives across the board.

Objective 1: State Office on Disability Prevention. An active, functional, fully staffed state office on TBYSCI disability prevention will be created, enabling the office to undertake, sustain, and expand its activities.

Objective 2: Advisory Council. An Advisory Council will contribute to achievements in resources, policy/legislative initiatives, data use, and interventions, making it an active and essential participant in the office's activities.

Objective 3: Partnerships. State and community agencies will incorporate TBI/SCI disability prevention into their own plans and priorities, demonstrating that the office has succeeded in disseminating information about TBI/SCI and persuading others of its importance across populations and disease categories.

Objective 4: Resources. Stable funding from varied sources will be secured, making the office gradually less dependent on a single federal or state source of funding (and fulfilling the assumption that CDC's initial funding plays a catalyst role in launching the office).

Objective 5: Data Availability. Consistent data elements on the magnitude of TBI/SCI and secondary conditions will be available, as a result of identifying data gaps and designing a data system that yields the necessary information for program planning.

Objective 6: Data **Uses.** Targeted data products will be used to set priorities, plan/adjust interventions/services, improve policies, and secure needed resources.

Objectives 7: Data Source. The state program will be recognized as a source of data on TBVSCI.

Objective 8: Policy/legislative Framework. Needed laws and policies will be adopted and publicized.

Objective 9: Supportive Constituency. A broad, supportive constituency will be in place.

Objective 10: State-wide Coverage. TBI/SCI interventions and service will be in place throughout the state, contributing to enhanced capacity at local levels.

Objective 11: Knowledge Base. Knowledge about effective community-based interventions and services will be documented and disseminated.

Objective 12: Cross-agency Projects. Cross-agency interventions and services will be undertaken, bolstering partnerships, the support and expansion of constituencies, and local capacity.

5. Goals

In the sequence presented by the overall logic model, the set of objectives leads to accomplishment of short- and long-term goals. The six short-term goals are closely tied to the preceding objectives. However, as with many programs with ambitious health status goals, the relationship between short- and long-term goals is less explicit.

The six *short-term goals* are:

- **Visibility** the state disability prevention program and its agenda will be visible and prominent.
- **Resources** Resources for the state disability program will be sufficient to implement and evaluate planned strategies.
- **Data Systems** Priority policy and intervention strategies will be data-driven.
- **Policy** Policies and legislation will reflect the influence of active agencies, constituents, consumers, and grantees.
- Community Capacity Community capacity to increase awareness of TBL'SCI and implement interventions will be increased.
- **Translation** The national knowledge base on effective policies, laws, community-based interventions. and services will expand.

The two *long-term* goals are that the **incidence of TBI/SCI and related** secondary conditions will decrease, and that the quality of life for people affected by TBI/SCI will improve.

B. Detailed Logic Model

Appendix B shows the same activity streams, objectives, and short-and long-term goals as Appendix A. However, the activities are divided between two phases: an initial phase and a subsequent phase. (The numbers and letter following each activity correspond to those in Appendix C, described below.) Although the underlying assumptions are not shown in Appendix B because of space considerations, they still apply.

One of the most consistent comments from state and CDC program staff was that the start-up activities required under their cooperative agreements were too ambitious for the initial year of funding. Starting from this premise, activities were divided into those that seemed more appropriate for an initial or start-up phase, and those that would be more

typical of an established, stable organization

For example, initial organizational activities include negotiating placement and lines of authority for the state program, securing and training key project staff, establishing a high-level Advisory Council and delineating its roles and functions, establishing relationships with state and community agencies, and launching a strategic planning process.

Once these basic elements are in place, the state office can move into the subsequent phase by reassessing its staffing and infrastructure needs, Advisory Council functions, and strategic plan and making adjustments in each of these areas as needed. In addition, office staff can begin to offer the program's capabilities to other state and community agencies.

Since most state health departments did not have disability surveillance expertise or systems in place prior to this funding, the initial **data-related activities** are preliminary activities that culminate in the design of an effective data/surveillance system and yield preliminary profiles of populations that are at risk for or affected by TBI/SCI. In the subsequent phase, the data/surveillance system designed in the first phase is implemented and resulting data are analyzed to determine priority conditions, age groups, and risk and protective factors that can be addressed through policy initiatives or interventions. During this phase, surveillance findings are not only used for planning purposes but are also disseminated to data partners, the media, and other constituents. As with the organizational activities, data and surveillance activities should be reassessed and adjusted as necessary.

Policy activities begin with an assessment of the political and economic environments in which the state program operates. As a result of this assessment, the program identifies strengths and potential barriers as well as specific policy and legislative gaps to be addressed with specific strategies in the subsequent phase. Key constituents and consumers are identified to begin building a broad, supportive network; these relationships are then strengthened during subsequent phases. In later phases, the impact of existing and new policies and laws is documented, with any necessary adjustments made for the next cycle of strategies.

Intervention activities follow the same pattern — identifying gaps, partners. and strategies in the initial phase, and moving to implementation and re-assessment in later phases. Specific intervention activities for subsequent phases include establishing an objective process for awarding funds, providing ongoing advice and assistance to grantees, monitoring community-based interventions and services, and disseminating evaluation findings.

C. Framework for Evaluating TBI/SCI Components of the Disability Prevention Program

As described above, logic models can serve as a test of a program's plausibility — that is, whether the sequence of assumptions, activities, and objectives can lead to the desired program goals. If a program's logic model is considered plausible, the next step is to determine whether or not the objectives and activities described in the logic model can be identified in a particular program. The framework presented in Appendix C is a first step toward identifying **measurable components** of state TBI/SCI or broader disability programs.

GOAL					
OBJECTIVES	Indicator	Source of data			
MAJOR ACTIVITIES	Indicator	Source of data			
RESOURCES	Indicator	Source of data			

The table above shows how Appendix C is organized. For each of the six goals listed in the logic model (visibility, resources, dara systems, policy, community capacity, translation), Appendix C lists (in the left-hand column) the related objectives and major activities from Appendix B. Also in this column are the types of resources (primarily couched in terms of skills and knowledge) that are required to carry out the activities.

Appendix C then goes further to identify **indicators** (found in the middle column) which answer three questions:

- · "How will we know that these objectives are being met?"
- "How will we know that these activities are taking place'?"
- "How will we know that these resources are present?"

Finally, Appendix C lists possible **data sources** for the indicators (in the right-hand column). Data sources include written documents that could be analyzed or individuals who could be interviewed to elicit data for determining whether the indicator is in place in a program.

Using the indicators and data sources in Appendix C, interview instruments or lists of relevant documents could be created to assess the objectives, activities. and resources of state programs.

As an example, Exhibit 1, on the following page, shows the specific indicators and data sources for policy-related activities, objectives, and resources.' Similar tables for all six goals are provided in the full Appendix.

⁴ The numbered objectives (1 - 12) and activities (O-1, D-2, etc.) correspond to the numbers found in Appendix B. Some activities are combined (e.g., 0-4; 0-8) when they relate to the same activity (e.g., partnerships) at different points in time (first phase and subsequent phase).

GOAL 4: POLICY

Policies and legislation will reflect the influence of active agencies, constituents, consumers, and grantees

OBJECTIVES	Indicator	Source of Data
8. Policy/Legislative Framework. Needed laws and policies will be adopted and publicized.	Newly adopted laws and policies reflect state office information	Interviews with constituency groups
9. Supportive Constituency. A broad, supportive constituency will be in place.	Constituents initiate legislative and policy efforts	Legislative record
		Policy documents
ACTIVITIES	Indicator	Source of Data
P-I Assessment. Assess political and economic environment to identify strengths and potential	Resulls of assessment evident in strategic plan.	Strategic plan
barriers.		Project files
P-2; P-5 Gaps. Identify policy and legislative gaps; adjust as necessary.	Analyses of policy/legislative issues and proposals for new/revised policies and laws completed and disseminated to relevant parties	Legislative record
P-3; P-6 Partnerships. Identify key constituents and consumers; strengthen relationships.	Increasing success in adoption of proposed policies and laws	Interviews with policy makers and legislative officials/staff
P-4; P-7 Strategies. Design and implement policy/legislative strategies.	Positive impact from new policies and laws	Interviews with project staff, constituents, consumers
RESOURCES	Indicator	Source of Data
Staff skilled in policy and legislative analysis	Consistent, qualified staffing	Staff histories
Constituent groups	Increasing numbers of involved constituent groups	Interviews with constituent groups

v. **CONCLUSIONS**

A. Value of Evaluability Assessment

As stated in Section I of this report, this evaluability assessment was commissioned to answer three key questions:

- Is there a consensus on the goals of the programs and what constitutes a successful program?
- · What are the goals and critical program components?
- What indicator(s) could be used to determine that a program has been successfully implemented?
- What indicator(s) could be used to determine whether a program is moving toward and attaining the desired goals?

The study concluded that the goals, objectives, and activities for a successful TBI/SCI capacity-building program *cm* indeed be identified. Despite changes in direction and emphasis through the past decade, and despite variations in program emphasis from state to state, there is a surprising degree of consensus among all stakeholders on the program's intended goals and on indicators that could be used to measure goal attainment.

The logic model and set of measurable components presented in Section IV clearly outline the goals and critical program components of a TBI/SCI capacity-building program. They also suggest indicators with which to evaluate achievement of the goals and success&l implementation of the program components. While currently specific to TBYSCI programs, the model is relatively generic and can be adapted and applied to other public health programs — particularly those intended to build capacity for prevention at state or community levels.

The products of this evaluability assessment — the logic model and framework of measurable components — demonstrate that the search for the causal "thread" underlying program evolution is worthwhile. Without a doubt, developing a logic model at any point in a program's lifetime — before, during, or after — is time-consuming. When views of project goals or assumptions are in conflict or are unclear, the process can be even more difficult. However, the process can yield useful results for a variety of program stages.

Most importantly, this study has demonstrated the inherent value of evaluability assessment for program planning. Logic models are extremely useful as **planning tools**, to help articulate expectations of program designers and implementers. A more specific application of logic models as planning tools is their use in developing program announcements. By forcing the funding agency to be explicit about required program components and the rationale for including them, logic models can help avoid contusion in the application and award process and can minimize mismatched expectations later in the funding cycle. In addition, yardsticks (in the form of measurable indicators) can be used to define expectations and to evaluate submitted applications and progress reports.

Even when a program has been operating for some time (as this one was), logic models can still contribute to program reviews, mid-course corrections, and other standard features of program evolution. For example, a detailed logic model could serve as a **checklist for technical assistance** by allowing states (or local programs) to compare their activities against a standard benchmark and then identify areas needing further attention or support. Additionally, the model might help identify new federal or state policies that are needed to support a program or existing policies that should be updated. Finally, by articulating the assumptions behind programs and the rationale for various activities (and expenditures), logic models can help program designers and supporters defend the program and demonstrate accountability and responsiveness to constituents.

The final phase of this project assessed the feasibility of using the logic model and measurable components as the framework for a full-blown program evaluation. Due to recent changes in program direction and funding priorities, difficulties in obtaining needed data, and cost considerations, such an evaluation is not recommended at this time.

B. Implications for Program Planning

The study's analysis also revealed a variety of strategies for strengthening CDC-state partnerships. These strategies emerged primarily from the interviews, and are implied in the assumptions on the logic model. Although they were generated from a specific focus on TBI/SCI activities, they are generally applicable across the spectrum of public health programs.

Essential ingredients of a strong CDC-state partnership for prevention include:

- National **leadership** from CDC in such areas as:
 - · increasing visibility and attention for public health issues
 - · nurturing strong constituencies
 - developing a national data base on magnitude and burden of disease and injury
 - · conducting research to further the science base.
- **Program announcements** that are clear, focused, and realistic. Frequent changes in direction cause great frustration and anxiety among states.
- An appropriate **balance** in expectations of state activity. States need room for creativity and flexibility, but also welcome some prescriptive parameters to assure consistency particularly in relation to surveillance methodologies or proven interventions.
- Provision of regular, consistent feedback on state plans, activities, quarterly reports, and surveillance data. Having a knowledgeable, available contact within CDC is very important to states.

- Grounding program design and decisions on valid **data**, to the extent possible. When such data are not available, programs should proceed with a phased approach (as in this study's logic model) and should involve both CDC and the states in the evolutionary learning process.
- Expansion and nurturing of **partnerships** at the federal, state, and community levels. The more complex the health system becomes, and the tighter the resource pool, the more imperative it is to broaden partnerships in both the public and private sectors.
- Enhanced **constituency support** and involvement to ensure that programs are structured to meet the needs of those for whom they are intended.

APPENDIX A:

OVERVIEW OF TBI/SCI ASSUMPTIONS, ACTIVITIES, OBJECTIVES, AND GOALS

APPENDIX B:

MAJOR TBI/SCI ACTIVITIES, PROGRAM OBJECTIVES, AND GOALS

APPENDIX C:

FRAMEWORK FOR EVALUATING TBI/SCI COMPONENTS OF THE DISABILITY PREVENTION PROGRAM

FRAMEWORK FOR EVALUATING TBI/SCI COMPONENTS OF THE DISABILITY PREVENTION PROGRAM

Prepared for

National Center for Injury Prevention and Control Centers for Disease Control and Prevention

by

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Introduction

This document presents a framework for evaluating the major **TBI/SCI** components of the Disability Prevention Program. These components are delineated on the accompanying chart, "Major **TBI/SCI**, Activities, Program Objectives, and Goals."

The framework is organized according to the six short-term goals on the chart:

- visibility
- resources
- data systems
- policy
- community capacity
- translation.

A separate table is provided for each of the six goals. (Please note that some tables continue onto the next page.) Within each table, **indicators** are listed for evaluating achievement of the specific **objectives** and **activities** relating to one goal. The numbered objectives (1 - 12) and activities (O-I, D-2, etc.) correspond to the numbers on the accompanying chart. Some activities are combined (e.g., O-4; O-8) when they relate to the same activity (e.g., partnerships) at different points in time (first phase and subsequent phase).

Indicators answer the question, "How will we know that these objectives are being met, or that this activity is taking place?" The tables also list data sources for each indicator. Sources include written documents that could be analyzed, or individuals who could be interviewed, to elicit data for determining if the indicator is in place in a program.

Also included are the **resources** required to meet the objectives and carry out the activities. Indicators and data sources to measure the availability and adequacy of these resources are proposed.

GOAL 1: VISIBILITY State disability program and its agenda will be visible and prominent

OBJECTIVES	Indicator	Source of Data
State Office on Disability Prevention. Active, functional, fully staffed state office on TBI/SCI disability prevention will be created.	Disability office with direct access to state agency d i r e c t o r	State agency organizational chart Interviews, products, and reports
prevention will be created.		interviews, products, and reports
	Staffing of director, epidemiologist, and program assistant-with no vacancies and low turnover	Staffing lists
2. Advisory Council. Advisory council will contribute to achievements in resources, policy/legislative initiatives, data use, and interventions.	TBVSCI prevention policies and activities planned and supported by advisory council	Minutes of advisory council meetings
3. Partnerships. State and community agencies will incorporate TBVSCI and disability prevention into their own plans and priorities.	Disability prevention activities included in other state programs/grants	State program reviews/plans
ACTIVITIES	Indicator	Source of Data
O-I Organizational Structure. Negotiate organizational placement and lines of authority for state program.	Organizational access to key agency decision makers.	Organizational chart; staff interviews
O-3; O-7 Advisory Council. Establish high-level advisory council and delineate its roles and functions; adjust as	Advisory council comprised of individuals who are well-respected, are knowledgeable about TBVSCI	Minutes of advisory council meetings
necessary.	and disability, and provide program direction	Interviews with advisory council members
04; O-9 Partnerships. Establish relationships with state and community agencies; offer program office capabilities	Increasing number of other programs knowledgeable about disability office's capabilities	Interviews with constituents and state/community-based agencies
to state and community agencies.		Interviews with other agency program managers
05 ; O-9 Plan. Initiate strategic planning, with input and endorsement from constituents; refine and disseminate strategic plan, monitor progress, and adjust as necessary.	Current strategic plan readily available in disability office and other state programs	Disability office and other state agency program files
	Program activities consistent with strategic plan	

GOAL I: VISIBILITY State disability program and its agenda will be visible and prominent

RESOURCES	Indicator	Source of Date
Strong advisory council	Council composition and activity	Current and prior council rosters
Office staff	Staffing of director, epidemiologist, and program assistant -with no vacancies and low turnover	Current organizational chart Current and prior staffing lists



GOAL 2: RESOURCES

Resources for state disability program staff and activities will be sufficient to implement and evaluate planned strategies

OBJECTIVES	Indicator	Source of Data
4. Resources. Stable funding from varied sources will be secured.	Increasing proportion of non-DPP funding over time	Program budgets
	Stable or increased funding levels over time	Budgets; Grant applications and annual reports
ACTIVITIES	Indicator	Source of Data
O-2; O-6 Resources. Secure and train key project staff and build infrastructure; assess and adjust as necessary.	Staffing of director, epidemiologist, and program assistant -with no vacancies and low turnover	Disability program budgets
	Staff attendance at relevant training sessions	Training budgets
RESOURCES	Indicator	Source of Data
DPP "catalyst" funding initially	State successful in competing for DPP funding	Budget histories
Knowledge of other potential sources of funding	Lists of potential funding sources	
Staff with knowledge and skill in grant writing	Staff skilled in acquiring funding	Staff qualifications and C.V.s
		Grant applications

YSTEMS د GOAL 3: DA

Priority policy and intervention strategies will be data-driven

OBJECTIVES	Indicator	Source of Data
5. Data Availability. Consistent data elements on the magnitude of TBI/SCI and secondary conditions will be available.	Surveillance findings disseminated to partners in useful fqrmat	Reports of surveillance findings
6. Data Uses. Targeted data products will be used to set priorities, plan/adjust interventions/services, improve policies, and secure needed resources.	Increasing reports/results cited in media, state agency plans, legislative hearings, etc.	Media coverage and legislative records
secure needed resources.	Strategic plan based on data	Current and prior strategic plans
7. Data Source. State program will be recognized as a source of data on TBI/SCI .	TBI/SCI data from program sought by others	Data products
		State agency plans; Interviews with partners
ACTIVITIES	Indicator	Some of Data
D-I Data Questions. Pose data/surveillance questions.	Listing of data questions developed with input from advisory council	Surveillance and other data reports and various data products
D-2; D-9 Partnerships. Identify data providers and users; disseminate surveillance findings through targeted products.	List of data providers and users	Interviews with program epidemiologist
	Dissemination and use of data products	Data products and interviews with users
D-3 Sources. Identify existing data sources.	List of data sources	
D-4; D-10 Gaps. Identify data gaps; reassess data needs and adjust as necessary.	List and analyses of data gaps	Surveillance and other data reports
D-5; D-I 1 Systems. Design data/surveillance systems; implement systems, assess effectiveness, and adjust as necessary.	System based on analyses of existing sources and gaps	Reports of surveillance system design and operation
	Needed enhancements to surveillance system made	
	Special data collection efforts	
D-6; D-8 Profiles. Compile preliminary profiles of populations at risk for and affected by TBI/SCI ; determine priority conditions, age groups, and risk and protective factors.	Profiles of populations at risk for/affected by TBI/SCI	Surveillance and other data reports
D-7 Analysfs. Analyze data.	Priority conditions, age groups, and risk/protective factors evident in strategic plan and other program activities	Strategic plan

GOAL 3: DATA SYSTEMS Priority policy and intervention strategies will be data-driven

RESOURCES	Indicator	Source of Data
Epidemiology expertise in disability prevention	Consistent epi staff with low turnover	Staff qualifications and history
Sufficient funding for surveillance and other data activities	Increasing funding for surveillance and other data activities	Budget histories
Data sources and users	Increasing involvement of sources and users of data in data issues	Interviews with representatives of data sources and users

GOAL 4: POLICY

Policies and legislation will reflect the influence of active agencies, constituents, consumers, and grantees

OBJECTIVES	Indicator	Source of Data
8. Policy/Legislative Framework. Needed laws and policies will be adopted and publicized.	Newly adopted laws and policies reflect state office information	Interviews with constituency groups
9. Supportive Constituency. A broad, supportive	Constituents initiate legislative and policy efforts	Legislative record
constituency will be in place.		Policy documents
ACTIVITIES	Indicator	Source of Data
P-I Assessment. Assess political and economic environment to identify strengths and potential	Results of assessment evident in strategic plan.	Strategic plan
barriers.		Project files
P-2; P-5 Gaps. Identify policy and legislative gaps; adjust as necessary.	Analyses of policy/legislative issues and proposals for new/revised policies and laws completed and disseminated to relevant parties	Legislative record
P-3; P-6 Partnerships. Identify key constituents and consumers; strengthen relationships.	Increasing success in adoption of proposed policies and laws	Interviews with policy makers and legislative officials/staff
P-4; P-7 Strategies. Design and implement policy/legislative strategies.	Positive impact from new policies and laws	Interviews with project staff, constituents, consumers
RESOURCES	Indicator	Source of Data
Staff skilled in policy and legislative analysis	Consistent, qualified staffing	Staff histories
Constituent groups	Increasing numbers of involved constituent groups	Interviews with constituent groups

GOAL 5: COMMUNITY CAPACITY

Community capacity to increase awareness of TBI/SCI and implement interventions/services will be increased

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OBJECTIVES	Indicator	Source of Data
10. State-wide Coverage. TBI/SCI interventions and services will be in place throughout the state.	Disability activities available to all state residents	Descriptions of current and past projects
12. Cross-agency Projects. Cross-agency interventions and services will be undertaken.	Increasing proportion of projects involving multiple agencies	Interviews with partners
		Descriptions of current and past projects
ACTIVITIES	Indicator	Source of Data
I-1 Gaps. Identify gaps in interventions and services, with input from consumers,	Analysis of gaps	Grant progress/annual reports
I-2 Partnerships. Initiate partnerships to address	Increasing involvement of partners in interventions	Interviews with partners
gaps.		Grant progress/annual reports
I-3 Strategies. Design strategies for community -based interventions and services.	Valid evaluation research studies designed and completed	Progress/annual reports on interventions
I-5 Technical Assistance. Provide ongoing advice and assistance to grantees.	Site visits and workshops in grant writing offered by disability program to potential grantees	Schedule/agenda for site visits and workshops
I-6 Impact. Monitor community-based interventions and services to assure effective implementation and evaluation.	Problems with interventions identified and addressed	Intervention design and progress reports
RESOURCES	Indicator	Source of Data
Qualified state program staff to provide technical assistance and organize review process	State staff skilled in organizing objective reviews and identifying needed technical assistance	Interviews with local grantees
	, ,	Staff qualifications
Local grantees	Increasing numbers of local grantees involved in project	Progress/annual reports

GOAL 6: TRANSLATION

National knowledge base on effective policies, laws, community-based interventions, and services will expand

OBJECTIVES	Indicator	Source of Data
11. Knowledge Base. Knowledge about effective community-based interventions and	Research results described in writing	Reports of research results
services will be documented and disseminated.	Knowledge about interventions shared with other disability partners at federal, state, and local levels	Publications
	alcability partitions at rousially state, and rosal levels	Mailing lists of research results
	Meetings/conferences held to share results	Meeting/conference agendas
ACTIVITIES	Indicator	Source of Data
I-4 Grants. Establish objective process for awarding funds.	Process for awarding funds to local grantees based on explicit evaluation criteria	Documentation of award criteria and grant reviews
	RFPs reflect new knowledge about effective interventions	RFPs and grant applications
I-7 Partnerships. Disseminate evaluation findings through targeted products.	Evaluation findings disseminated to partners in useful format	Interviews with grantees
mungs unough targeted products.	Tormat	Study design and progress reports
		Published reports
RESOURCES	Indicator	Source of Data
Skills in program/research evaluation design	Program staff or hired consultants with program/research evaluation design expertise	Staff qualifications
		Consultants' qualifications
Support for national/regional conferences	National/regional conferences held	Schedule of national/regional conferences

APPENDIX D:

INTERVIEW QUESTIONS FOR STATE PROGRAM MANAGERS

23. How has CDC supported your efforts, other than with funding? How adequate has this support been? What, if any, additional or different help is needed?

Program Structure

- 24. Where is your program situated within the state structure?
- 25. What are the advantages/disadvantages of this organizational location?
- 26. Has another location been considered? Why?

Other

- 27. Do you consider the DPP a success? Why or why not?
- 28. If we could turn the clock back 5-10 years, what could have been done differently to strengthen the DPP? Would you have changed the requirements in the Program Announcement? If so, how and why?
- 29. Are there activities that you would have pursued if funding were available?
- 30. Is there anything else you would like to add?
- 31. Who else should we interview?

APPENDIX E:

LIST OF INTERVIEWEES

List of Stakeholders Interviewed

Centers for Disease Control and Prevention

Doug Browne Joe Sniezek
Larry Burt Larry Sparks
Jack Jackson Jack Stubbs
Richard Jackson Steve Thacker
Wanda Jones JoAnn M. Thierry
Mark Rosenberg Richard Waxweiller

Joe Smith

State Program Managers and Staff

Arizona Ann Tarpy

Arkansas David Bourne, Buff Easterly, Lavencia Sugars, Gigi Wooten

Colorado Richard Hoffman, Renee Johnson Iowa Roger Chapman, Mario Shootman

Maryland Roger Harrell New York Fran Stevens

Oklahoma Sue Mallonee, Ruth Azeredo

South Carolina Ernest McCutcheon, Marcia Kelly, Anbesaw Selassie

Congressional Staff

Senators Arlen Specter, Tom Harkin, William H. Frist

Representatives Henry A. Waxman, Michael Bilirakis

Other Disability-related Agencies

Dr. Marcus Fuhrer, Director

Center for Medical Rehabilitation Research

National Institute on Child Health and Development

National Institutes of Health

Ethel Briggs, Executive Director

National Council on Disabilities

Katherine Seelman, Director

National Institute for Disability and Rehabilitation Research